



SEQUENCE LISTING

<110> American Cyanamid Company

<120> Vaccines Containing Recombinant Pilin Against Neisseria gonorrhoeae or Neisseria meningitidis

<130> 33377-00/PCT

<160> 24

<170> PatentIn version 3.1

<210> 1

<211> 504

<212> DNA

<213> Artificial

<220>

<221> CDS

<222> (1)..(501)

<223> Chimeric of Neisseria meningitidis Class I and Neisseria gonorrhoeae

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Met Asp Thr Leu Gln Lys Gly Phe Thr Leu Ile Glu Leu Met Ile Val	
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atc gcc atc gtc ggc att ttg gcg gca gtc gcc ctt ccc gcc tac caa	96
Ile Ala Ile Val Gly Ile Leu Ala Val Ala Leu Pro Ala Tyr Gln	
20 25 30	

gac tac acc gcc cgc gcg caa gtt tcc gaa gcc atc ctt ttg gcc gaa	144
Asp Tyr Thr Ala Arg Ala Gln Val Ser Glu Ala Ile Leu Leu Ala Glu	
35 40 45	

ggt caa aaa tca gcc gtt acc gag tat tac ctg aat cac ggc gaa tgg	192
Gly Gln Lys Ser Ala Val Thr Glu Tyr Tyr Leu Asn His Gly Glu Trp	
50 55 60	

ccc ggc aac aac act tct gcc ggc gtg gca tct tct tca aca atc aaa	240
Pro Gly Asn Asn Thr Ser Ala Gly Val Ala Ser Ser Ser Thr Ile Lys	
65 70 75 80	

ggc aaa tat gtt aag gaa gtt aca gtc gca aac ggc gtc att acc gcc	288
Gly Lys Tyr Val Lys Glu Val Thr Val Ala Asn Gly Val Ile Thr Ala	
85 90 95	

aca atg ctt tca agc ggc gta aac aaa gaa atc caa ggc aaa aaa ctc	336
Thr Met Leu Ser Ser Gly Val Asn Lys Glu Ile Gln Gly Lys Lys Leu	
100 105 110	

tcc ctg tgg gcc aag cgt caa gac ggt tcg gta aaa tgg ttc tgc gga	384
Ser Leu Trp Ala Lys Arg Gln Asp Gly Ser Val Lys Trp Phe Cys Gly	
115 120 125	

cag ccg gtt acg cgc acc gac gcc aaa gcc gac acc gtc gcc gcc gcc	432
Gln Pro Val Thr Arg Thr Asp Ala Lys Ala Asp Thr Val Ala Ala Ala	
130 135 140	

gcc aag acc gcc gac aac atc aac acc aag cac ctg ccg tca acc tgc 480
 Ala Lys Thr Ala Asp Asn Ile Asn Thr Lys His Leu Pro Ser Thr Cys
 145 150 155 160

cgc gac gca agt gat gcc agc taa 504
 Arg Asp Ala Ser Asp Ala Ser
 165

<210> 2
 <211> 167
 <212> PRT
 <213> Artificial
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<221> amino acid
 <222> (1)..(167)
 <223> Chimeric of Neisseria meningitidis Class I and Neisseria gonorrhoeae

<400> 2

Met Asp Thr Leu Gln Lys Gly Phe Thr Leu Ile Glu Leu Met Ile Val
 1 5 10 15

Ile Ala Ile Val Gly Ile Leu Ala Ala Val Ala Leu Pro Ala Tyr Gln
 20 25 30

Asp Tyr Thr Ala Arg Ala Gln Val Ser Glu Ala Ile Leu Leu Ala Glu
 35 40 45

Gly Gln Lys Ser Ala Val Thr Glu Tyr Tyr Leu Asn His Gly Glu Trp
 50 55 60

Pro Gly Asn Asn Thr Ser Ala Gly Val Ala Ser Ser Ser Thr Ile Lys
 65 70 75 80

Gly Lys Tyr Val Lys Glu Val Thr Val Ala Asn Gly Val Ile Thr Ala
 85 90 95

Thr Met Leu Ser Ser Gly Val Asn Lys Glu Ile Gln Gly Lys Lys Leu
 100 105 110

Ser Leu Trp Ala Lys Arg Gln Asp Gly Ser Val Lys Trp Phe Cys Gly
 115 120 125

Gln Pro Val Thr Arg Thr Asp Ala Lys Ala Asp Thr Val Ala Ala Ala
 130 135 140

Ala Lys Thr Ala Asp Asn Ile Asn Thr Lys His Leu Pro Ser Thr Cys
 145 150 155 160

Arg Asp Ala Ser Asp Ala Ser
165

<210> 3
<211> 510
<212> DNA
<213> Artificial

<220>
<221> CDS
<222> (1)..(507)
<223> Chimeric of Neisseria meningitidis Class II and Neisseria gonorrhoeae

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1 5 10 15	
atc gcc atc gtc ggt atc ttg gca gcc gtc gcc ctg ccc gca tac caa	96
Ile Ala Ile Val Gly Ile Leu Ala Ala Val Ala Leu Pro Ala Tyr Gln	
20 25 30	
gac tac acc gcg cgc gcc caa atg tcc gaa gcc ctg act ttg gca gaa	144
Asp Tyr Thr Ala Arg Ala Gln Met Ser Glu Ala Leu Thr Leu Ala Glu	
35 40 45	
ggt caa aaa tcc gca gtg atc gag tat tat tcc gac aac ggc aca ttc	192
Gly Gln Lys Ser Ala Val Ile Glu Tyr Tyr Ser Asp Asn Gly Thr Phe	
50 55 60	
ccg aac agc aat act tcc gca ggt att gct gcc tct aac gag att aaa	240
Pro Asn Ser Asn Thr Ser Ala Gly Ile Ala Ala Ser Asn Glu Ile Lys	
65 70 75 80	
ggt aag tat gtg gca tcg gtt aag gtt gaa ggt aat gcc tct gtt gct	288
Gly Lys Tyr Val Ala Ser Val Lys Val Glu Gly Asn Ala Ser Val Ala	
85 90 95	
tct att acc gct acc atg aac tct agt aat gtg aat aag gac atc aaa	336
Ser Ile Thr Ala Thr Met Asn Ser Ser Asn Val Asn Lys Asp Ile Lys	
100 105 110	
ggt aaa acc ttg gta ctc gtc ggc aaa caa aac tcc ggt tcg gta aaa	384
Gly Lys Thr Leu Val Leu Val Gly Lys Gln Asn Ser Gly Ser Val Lys	
115 120 125	
tgg ttc tgc gga cag ccg gtt acg cgc gac aac gcc gac aac gac gac	432
Trp Phe Cys Gly Gln Pro Val Thr Arg Asp Asn Ala Asp Asn Asp Asp	
130 135 140	
gtc aaa gac gcc ggc aac aac ggc atc gaa acc aag cac ctg ccg tca	480
Val Lys Asp Ala Gly Asn Asn Gly Ile Glu Thr Lys His Leu Pro Ser	
145 150 155 160	
acc tgc cgc gat acg tca tct gat gcc aaa	510

Thr Cys Arg Asp Thr Ser Ser Asp Ala
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<210> 4
<211> 169
<212> PRT
<213> Artificial

<220>
<221> amino acid
<222> (1)..(169)
<223> Chimeric of Neisseria meningitidis Class II and Neisseria gonorrhoeae

<400> 4

Met Glu Ala Ile Gln Lys Gly Phe Thr Leu Ile Glu Leu Met Ile Val
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Ile Ala Ile Val Gly Ile Leu Ala Ala Val Ala Leu Pro Ala Tyr Gln
20 25 30

Asp Tyr Thr Ala Arg Ala Gln Met Ser Glu Ala Leu Thr Leu Ala Glu
35 40 45

Gly Gln Lys Ser Ala Val Ile Glu Tyr Tyr Ser Asp Asn Gly Thr Phe
50 55 60

Pro Asn Ser Asn Thr Ser Ala Gly Ile Ala Ala Ser Asn Glu Ile Lys
65 70 75 80

Gly Lys Tyr Val Ala Ser Val Lys Val Glu Gly Asn Ala Ser Val Ala
85 90 95

Ser Ile Thr Ala Thr Met Asn Ser Ser Asn Val Asn Lys Asp Ile Lys
100 105 110

Gly Lys Thr Leu Val Leu Val Gly Lys Gln Asn Ser Gly Ser Val Lys
115 120 125

Trp Phe Cys Gly Gln Pro Val Thr Arg Asp Asn Ala Asp Asn Asp Asp
130 135 140

Val Lys Asp Ala Gly Asn Asn Gly Ile Glu Thr Lys His Leu Pro Ser
145 150 155 160

Thr Cys Arg Asp Thr Ser Ser Asp Ala
165

<210> 5
 <211> 30
 <212> DNA
 <213> *Neisseria gonorrhoeae*

 <400> 5
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 <210> 6
 <211> 30
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 <213> *Neisseria gonorrhoeae*

 <400> 6
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 <210> 7
 <211> 29
 <212> DNA
 <213> *Neisseria gonorrhoeae*

 <400> 7
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 <210> 8
 <211> 27
 <212> DNA
 <213> *Neisseria gonorrhoeae*

 <400> 8
 ggctctagat tgaagcattt atcaggg 27

 <210> 9
 <211> 28
 <212> DNA
 <213> *Neisseria gonorrhoeae*

 <400> 9
 ggctctagat aaacagtaat acaagggg 28

 <210> 10
 <211> 28
 <212> DNA
 <213> *Neisseria gonorrhoeae*

 <400> 10
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 <212> DNA
 <213> *Neisseria meningitidis* Class I

 <400> 11
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<210> 12
 <211> 39
 <212> DNA
 <213> Neisseria meningitidis Class I

 <400> 12
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 <210> 13
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 <400> 13
 ccggcgcgtc tctcacggcg aatggcccgg c 31

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 <400> 14
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 <210> 15
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 <400> 15
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 <210> 16
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<210> 21
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<210> 22
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<400> 22
gggcctggat ccgtgggaaa tcaactaccg 30

<210> 23
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<400> 23
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<211> 22
<212> PRT
<213> Neisseria gonorrhoeae

<400> 24

Glu Ala Ile Leu Leu Ala Glu Gly Gln Lys Ser Ala Val Thr Glu Tyr
1 5 10 15

Tyr Leu Asn His Gly Lys

